

THE
WEEK

JUNE 19, 1994



HOW TO FIGHT **ASTHMA**

Disease, diagnosis and treatment





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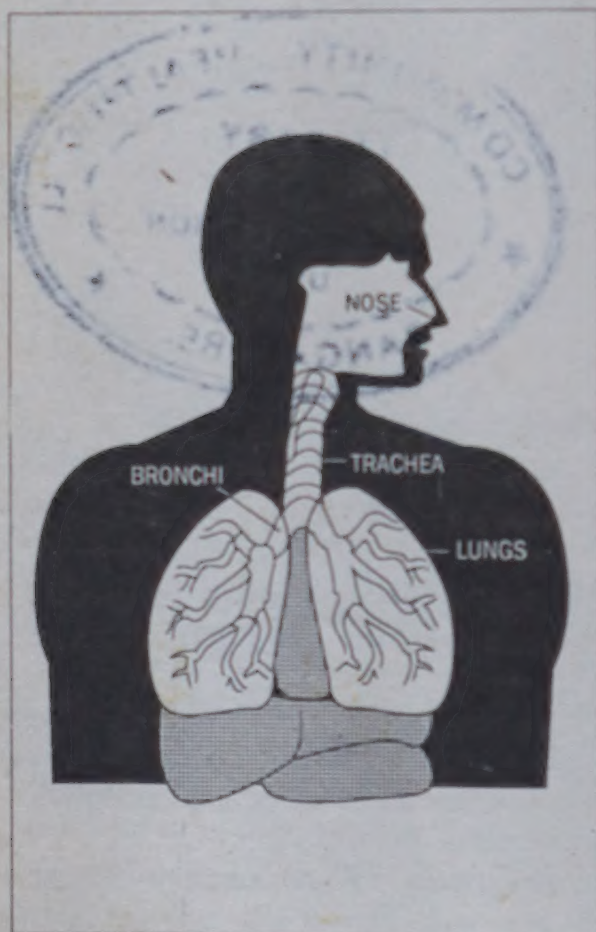
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Note: This booklet aims at furnishing authentic and up-to-date information; readers are advised to seek advice and treatment from a qualified physician in case of illness.

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Understanding the disease-symptoms, causes, types

By R.L. SAGGAR



N.V. JOSE

A form of allergy.

ASTHMA is a form of allergy which involves the lungs and its tubes—the bronchi. It is characterised by spells of coughing, wheezing, choking and shortness of breath.

The condition, associated with an obstruction of the bronchial tubes, results in an inability to expel air from the lungs. There is swelling in the mucous membranes of the bronchial tubes and in the bronchioles within the lungs. This causes narrowing of the passageway for air. The mucous glands within the bronchial tubes secrete an increased amount of mucus, thus further obstructing the passage of air.

Symptoms

The manifestation of asthma among children may be intractable, recurrent cough which is of unknown cause and which does not respond to ordinary treatment. Among the common causes of asthma in children are sensitivities to food, whereas these are responsible for only a small percentage of cases among adults.

In an asthmatic attack, the patient finds it increasingly difficult to breathe until he struggles for air and thinks he is suffocating. The result: he breathes more rapidly and his pulse becomes more rapid. The plugs of mucous secretion block the bronchial tubes, the blood cannot draw an adequate amount of oxygen. The constriction of the bronchial tubes result



House dust mite is a common allergen

in a high-pitched sound while inhaling. Because the breathing is difficult, the muscles of the chest are strained.

Frequently, the attack of asthma comes with a strong desire to sneeze, followed by a lot of secretion from the nose and lungs. Often, there is frequent yawning before the attack, sometimes itching of the skin or an eruption. All these are symptoms of the sensitivity. Because of the constriction of the tubes and the increased secretion, coughing is not infrequent while the patient tries to clear the chest and throat.

Most alarming, however, is the sense of suffocation that is not relieved by strenuous efforts to breathe, by increasing the flow of air, opening the window or by remaining absolutely quiet. However, patients soon learn that they can best combat the shortness of breath by remaining calm and motionless. They are likely to bend the body so as to increase the breathing space in the chest and throat. When the attack passes, the

breathing becomes easier and the anxiety disappears.

Causes

Allergy or sensitivities to different kinds of food may produce symptoms like itching, sores in the mouth, swelling of lips, vomiting diarrhoea, headache etc. immediately and others may appear later. Besides food items, allergens include house dust, pollens, mould spores, animal hair, drugs, insect odours and fumes.

Climate appears to affect the asthmatic patient. This is particularly true of climate characterized by great variations of temperature and increased humidity. These factors constitute : an increased incidence of respiratory tract infections, in turn precipitating asthmatic attacks.

Seasonal variations are present particularly in instances of pollen or mould sensitivity. The patient's occupation may play a very important role.

Glandular disturbances which accompany pregnancy, menstruation and menopause may contribute to the sever-



ity of the asthmatic attack.

Many patients are free or relatively free of asthma during pregnancies and are invariably worse during menstrual cycle.

Emotional factors are known to be quite important, affecting the asthmatic patients greatly. Asthma can lead to severe psychological disturbances in the family.

Pungent and irritating odours such as turpentine, sulphur, gasoline, paints, smoke and fur have an adverse effect on the asthmatic patients.

SOME OF THE MOST COMMON ALLERGIC DISEASES

- * Bronchial asthma
- * Hay fever
- * Allergic rhinitis
- * Eczema (atopic dermatitis)
- * Hives (Urticaria)
- * Contact dermatitis
- * Migraine (sick headache)

Types:

There are many causes and triggers of asthma. These have been classified rather arbitrarily into:

1. Asthma that is due to allergy.
2. Asthma that is due to irritation of the bronchial tubes.
3. Asthma that is largely mental in its origin/cause.
4. Asthma that is related to viral infection of the upper respiratory tract.
5. Finally, asthma that cannot be related to any definite cause.

Asthma among children

THE course and severity of asthma among children are difficult to predict. The majority of the affected children have occasional attacks of slight to moderate severity, not very difficult to manage. A minority develop severe intractable asthma, usually perennial rather than seasonal. It is incapacitating and adversely affects school attendance, day-to-day functioning and general child activity.

First symptoms

Asthma may have its onset at any age, 30 per cent of patients are symptomatic in their first year of life. About 85 per cent of asthmatic children have their first symptoms before 4-5 years of age.

Most affected children may have onset of wheezing during the first year of life and family histories of asthma and other allergic diseases. These children may have growth retardation unrelated to cortico-steroid administration, chest deformity secondary to chronic hyper-inflation.

Airway diameter

The prognosis for young asthmatic children is generally good. Ultimate remission depends partly upon growth in the cross sectional diameter of the airway. About 50 per cent of all asthmatic children are virtually free of symptoms within 10-20 years, but recurrences are common in adulthood.

In children who have mild asthma with onset between two years and puberty, the remission rate is almost 50 per cent and only 5 per cent develop severe disease. In contrast, children with chronic



steroid-dependent disease with frequent hospitalization rarely improve, and 95 per cent become adult asthmatics.

Quick and fast diagnosis and treatment can help control asthmatic attacks in children. Medical experts say that among factors that put the children in the high-risk category are: under-estimation of the severity of the illness by the patient, family, physician, leading to a delay in treatment, under-use of steroids and non-compliance of the prescribed treatment.

Three categories.

Experts classify asthmatic patients into three types—mild, moderate or severe, based on the history, physical examination, laboratory data and need for medication.

Mild asthma

Children with mild asthma have attacks of varying frequency, upto once

each week. The attacks are not severe and the child responds to broncho-dilator treatment in 1-2 days. Generally, medication is not required between attacks when the child is essentially free of symptoms of airway obstruction. Children with mild asthma have good school attendance, exercise tolerance and uninterrupted sleep.

Moderate asthma

Children with moderate asthma have symptoms more frequently, than those with mild disease. They often have cough and mild wheezing between more severe exacerbations. School attendance is irregular, exercise tolerance is less due to coughing and wheezing and sleep is disturbed.

They need regular and continuous medical attention rather than intermittent

broncho-dilator therapy.

Severe asthma

Such children have virtually constant wheezing and more frequent and more severe exacerbations. Recurrent hospitalisation is necessary. They have poor school attendance, unsound sleep and poor exercise tolerance. Due to chronic hyper-inflation they develop chest deformities. Continuous and systematic medical treatment is required. During severe attacks round-the-clock therapy is necessary to achieve adequate control of asthma. The doctor may supplement the therapy with judicious administration of cortico-steroids if normal management guidelines fail to achieve significant amelioration of symptoms—unacceptable degree of coughing and wheezing.

ARE ALLERGIES INHERITED ?

Most allergists believe that the tendency to develop the disease, rather than the disease itself, is inherited. A child whose father or mother is allergic is much more likely to develop an allergy than one whose parents are not allergic. Children may not necessarily develop the same allergy as their parents. A child whose parent has hay fever may develop asthma, eczema or another allergic condition.

Children of two allergic parents are known to develop allergies earlier and in a more serious form.

If both parents are allergic, the children have a 50 per cent chance of being allergic. When one parent is allergic, the possibility is approximately 25 per cent.

The common causes for allergies in small infants and young children are the foods they eat and the substances which are used for body-care. Boiled milk should be used instead of raw milk, which is more likely to cause allergy. All new food should be added to such an infant's diet one by one so that allergic responses can be known.

The playroom and the bed room should be as dust free as possible. Animals such as dogs, cats or birds and even stuffed animal toys should be kept away from these children.

Diagnosis and treatment

RECURRENT episodes of coughing and wheezing especially, if aggravated by a viral infection, exercise or allergens, are highly suggestive of asthma. In some cases, asthma symptoms may be ascribed erroneously to "allergic cough", "allergic bronchitis", "wheezy bronchitis" or "chronic bronchitis".

Examination during an episode of severe symptoms is helpful if improvement occurs following broncho-dilator therapy. Such an improvement corroborates the finding that the cough is a sign of asthma.

The diagnosis of asthma is made on the basis of:

- i) the history of the disease as narrated by the patient
- ii) the physical examination of the patient, particularly of the chest.

The preliminary findings are further confirmed by:

- i) lung function tests in which the patient is asked to breathe in and out of a machine and the curve made by the breath on the paper is read and interpreted.
- ii) The X-ray of the chest, nasal sinuses and other tests such as of the blood.
- iii) Skin allergy tests are conducted to identify the allergen that caused the asthma attack.

treatment:

Asthma therapy includes basic concepts such as avoiding allergens, improving broncho-dilation and reducing inflammation. The hyperactivity of the asthmatic airway as an additional problem is dealt with by minimising exposure



to non-specific irritants such as smoke from tobacco, wood/coal burning, fumes from oil stoves, strong odours from paints and disinfectants and by avoiding cold drinks and rapid changes in temperature and humidity.

Keeping in view the patient's condition and the severity of the disease, the physician selects the course of action:

1. Use of drugs (tablets, capsules)
2. Immunotherapy (use of injections following skin allergy tests)
3. Use of inhalers (steroids and other drugs in the form of aerosol particles).

Drugs:

After a thorough check-up, laboratory tests, and an examination of the case history, a doctor will decide on the treatment. With the narrowing of the airways, an asthmatic patient experiences deficiency of oxygen in the body. He breathes rapidly. This results in loss of water in the body as the water vapours lace the air

exhaled by the patient. Alongside, the excessive secretions can cause lung infection. It is imperative to rectify these dearrangements. Some options in the treatment may be:

i) The narrowing of airways is corrected by administering different broncho-dilators such as theophylline, salbutamol, etc.

ii) If the patient experiences a continuous and severe attack of asthma an intravenous drip of aminophylline in 5 percent glucose- saline is commenced. The twin object of removal of broncho-constriction and dehydration are achieved.

iii) An intramuscular injection is given if the attack is very severe.

iv) Cortico-steroids may be required to be given orally, intramuscular or intravenously depending upon the severity of the case.

v) If the patient has less oxygen in the body and shows signs of turning blue, he may need supply of additional oxygen. This may be given through catheter in the nose or a ventrimask or a positive pressure breathing apparatus.

vi) The water loss needs to be replaced by mouth or intravenously.

vii) If infection is indicated in the lungs, appropriate anti-biotics are given.

Cortisone and allied drugs

Cortisone and allied drugs are valuable addition to the drug armamentarium. They are normally employed in emergencies such as severe asthma. They have provided great relief to those who suffer severe and continuous attacks of asthma.

Intra-muscular and intravenous administration removes symptoms among those in whom aminophylline has not been of much help. Cortico-steroid administration can help patients



who do not respond to aminophylline. After the attack subsides, oral administration can be provided. Cortico-steroids can be gradually tapered off and the patient can be put on comparatively routine bronchodilators.

While providing the much-needed relief to the suffering patient, short-term use of cortico-steroids have not shown serious side-effects or complications. However, long-term use of these drugs is not advised as several side-effects have been observed. In some cases, complications also appear causing depression and emotional despair to patients.

Sodium Cromoglycate and its preventive quality.

This drug has unique qualities and helps check asthmatic attacks. It is neither a broncho-dilator like salbutamol (Asthali SOS) nor a cortico-steroid or anti-histamine. When inhaled as a fine powder, it coats the respiratory mucous membrane. The coating makes the cell wall strong and difficult to penetrate. When an asthmatic patient inhales an allergen like pollens, cromoglycate-coated cell walls successfully resist their attack, thus rendering the potential asthmatic attack ineffective.



A patient uses an inhaler

The preventive effect of a single inhalation lasts for 4-6 hours, after which the drug disintegrates. Repeat inhalation three to four times a day can act as a powerful defence against asthmatic attack. The drug has no value in providing immediate relief in an asthmatic attack.

Cromoglycate particles are inhaled in a special gadget called spinhaler, or through metered dose inhaler.

Anti-histamines and their uses

In majority of the cases adult asthmatic patients do not respond to anti-histamines. These have no effect on bronchospasm. In some cases, the symptoms may get aggravated because of the drying up of the secretions and the subsequent difficulty in passing phlegum.

Anti-histamines do provide relief to children suffering from allergic cough. These are given along with a broncho-dilator in a cough mixture.

Inhalers provide relief

Inhalers are easy to handle, light weight gadgets from which the fixed

How to use the inhaler

1. Shake the inhaler vigorously.
2. Tilt your head back a little and breathe out.
3. Hold the inhaler either in the mouth or one inch from the mouth.
4. Activate the spray and inhale deeply and slowly.
5. Hold breath for ten seconds.
6. Wait for one minute.
7. Repeat all the above steps for subsequent puffs.

Physicians point out certain hurdles in the regular use of steroid inhalers:

1. These are expensive.
2. There tends to be poor patient compliance.
3. Inhalers work very slowly, taking 10 days for any improvement to show.
4. It may appear to patients used to getting instant relief with sympathomimetic inhalers that the steroid inhalers are not effective.

dose of medicine comes out in the form of aerosol particles, appearing as mist or a cloud. This restricts the quantity of the medicine entering the body, thus limiting the side-effects to the minimal.

The inhalers contain either a bronchodilator like salbutamol (Asthalin, SOS), Terbutalin or Cortisone-like drug (Beclate)

The inhalers provide prompt relief to an asthmatic patient.

Use of Peak-Flow Meter

This is quite useful in calculating the amount of drug to be taken daily.

Peak Flow meter is a small tube-like apparatus. When the patient blows through the tube, it measures the force of his blow. The patient can, with its help, find out whether the breathing is normal or less. If it is less, he is able to know it to the exact degree. He can accordingly adjust the dose.

Use of nebulizers

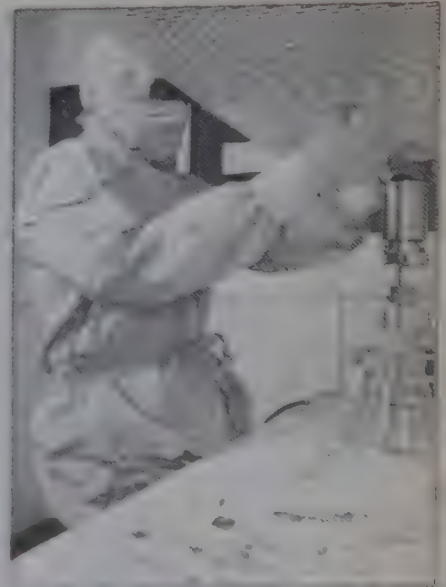
A nebulizer is particularly helpful in patients who get moderate to severe symptoms at night. Such patients should use a nebulizer before they go to sleep.

A nebulizer is a machine that takes an asthma medication and through its compressor, turns it into a fine misty aerosol. The medication thus dispersed is inhaled directly into the airways.

The aerosol particles between 1 to 5 microns (a micron is a thousand part of a millimetre) manage to reach even the difficult-to-reach parts of the airways where they are most effective.

Nebulizers are comparatively more useful for elderly patients who have difficulty with hand-held metered-dose inhalers.

Similarly infants and children who cannot grasp the concept of the MD/s even when the spacers are used.



Occupational allergens can be frustrating

Occupational hazards

Men and women who are in occupations in which they are especially exposed to the inhalation of various dusts, fumes, smells, etc. more frequently have asthma than others. These occupations include

- * Bakeries
- * Cement factories
- * Paint and varnish manufacturing units
- * Poultry and animal farms
- * Textile and spinning works
- * Woollen and upholstery industry
- * Barbers/beauty parlours
- * Chemical units
- * Food industry
- * Coal mines
- * Tanneries
- * Alcoholic beverage units
- * Dry cleaning/dyeing units
- * Paper and printing industry
- * Perfumery and incense units
- * Stone-crushers
- * Cosmetics units

Asthma factsheet

* AN asthmatic can lead life like any other normal person. By taking proper measures, he can prevent the occurrence of an asthma attack, and also minimize or do away with the inconvenience caused by asthma.

* Asthmatic attacks tend to come on suddenly.

* The most severe attacks can be controlled temporarily. There are drugs that can effectively relieve the acute attack.

* People of any age can have asthma, but at least 50 percent cases are known to be between the ages of twenty and forty.

* The factors that precipitate asthmatic attacks are: acute respiratory

infection, exposure to one of the allergens, exertion, sudden change in temperature and emotional stress.

* The most common symptoms of asthma: wheezing, a hard dry cough, a sense of suffocation, and inability to expel air easily from the lungs.

* In an acute asthmatic attack, hospitalisation is often necessary to prevent suffocation.

* The most common time for asthmatic attack to occur: early morning hours, during night.

* Asthma, like allergies, is not contagious. It is not transmitted from person to person by contact.

* Asthma is almost never fatal but it is uncomfortable and inconvenient even



Male children are more prone to asthma than female children

in mild form.

* Nervousness never causes asthma, but there is a definite relationship between the two.

* It is almost impossible to desensitize an asthmatic patient to a house pet, from whom he must stay away.

* The incidence of asthma is higher in congested, crowded urban colonies and slums.

* Male children are more prone to asthma than female children. However, this gap becomes negligible after the first 12 years of age.

* Asthma has existed since early times because the very name of the disease comes from a Greek word that means panting or gasping for breath of a fairly severe degree.

Sensitivity to different dusts

A person with asthma may be sensitive to different kinds of dusts. For instance a woman working in a beauty parlour was found to be sensitive to orris root. When the orris root was replaced by buck wheat flour, the symptoms disappeared, but after ten months she became sensitive to the buckwheat flour. When removed from this contact, the asthma disappeared, but after 10 months she became sensitive to the buckwheat flour. When removed from this contact, the asthma disappeared but at a later date she became sensitive to rye flour.

A senior eye specialist narrates his experience when he had gone to Kulu district in Himachal Pradesh for conducting the eye care camp. When the camp ended, the villagers, as a gesture of gratitude, gifted the doctor a hand-woven wollen blanket. The doctor, on return, started covering his 6-year old son with this blanket at night. After 3-4 days he noticed the child having breathing difficulty. This was discussed with a specialist who investigated the problem thoroughly, listing all the new additions to the bed-

room. The blanket, made from raw wool was found to be the culprit responsible for child's breathlessness. The breathing became normal after the offending blanket was removed.

Some common allergens

- *The pollen of trees, grasses and weeds
- *Mould spores
- *Animal hairs
- *Drugs
- *Dyes
- *Cosmetics
- *Chemicals
- *Certain foods
- *Strong fumes
- *Feathers
- *Perfumes
- *Antitoxins
- *Bites or stings of insects
- *Plastics
- *Serums
- *Mouse dust

Breathlessness and wheeze due to foreign bodies



Pollen of flowers cause allergies

A young patient had severe asthma which did not respond to usual medical treatment: it was of three years duration. The physician who knew him well brought up the possibility of psychosomatic factors playing an important part in producing the asthma. The patient showed emotional instability and was poorly adjusted. He belonged to a well to do family and never followed a definite line of

work. He took to drinking. Attempts at rehabilitation were unsuccessful.

Since all examinations conducted at one of the clinics failed to show a cause for the asthmatic condition, a psychoanalysis was suggested and adopted. The results were poor. He was reexamined. Bronchoscopy was advised. This examination revealed nothing of note, although it was not satisfactory because

the patient jumped off the table before the bronchoscope was introduced. The chest X-ray was repeated and closer examination of the film showed a small metal clip at the base of the right lung. The mere presence of emotional conflicts and psychosomatic problems in an asthmatic patient is no proof that these factors are always the important causative factor in producing his condition.

Not Asthma, but asthma like

There are some diseases which may have symptoms similar to those of asthma. Chronic bronchitis and asthma may co-exist in a patient. Ridden with chronic bronchitis, a patient may, after many years, develop intrinsic asthma. Such a patient does not have any allergic background but developed asthmatic symptoms due to some pre-existing dis-

ease of the lung. This type of asthma mostly occurs in the later period of life.

Medical researchers have observed that in some patients breathlessness is primarily caused by the heart disease. This condition also occurs in paroxysms of breathlessness usually in sleep, but at times due to exertion, mental fatigue and depression. Cardiac asthma is precipitated by acute failure of the pumping action of the heart. It is a common feature in hypertensive heart disease and coronary artery disease.

Another comparatively uncommon condition is hysterical asthma. Some patients, particularly young girls, complain of asthma-like symptoms. However, there are no signs of wheeze or breathlessness, all they have is what is called sighing respiration.

Are you a potential asthmatic?

- | | |
|--|--------|
| 1. Is there a history of asthma in your family? | Yes/No |
| 2. Do you have throat or nose infection very often? | |
| 3. Do you get bouts of sneezing at the change of season? | |
| 4. Do you experience breathing difficulty when exposed to cold wind-swept environment? | |
| 5. Do you have a running nose? | |
| 6. Does the change of season bring in coughing and throat irritation to you? | |
| 7. Do you get skin rash, itching very often for reasons known or unknown? | |
| 8. Do you live or work in a pollution-ridden environment? | |
| 9. Do you experience a choking feeling when you are tense or depressed? | |
| 10. Does exertion or change of season give you breathlessness? | |

Common time for attacks to occur



OFTEN the asthmatic attacks occur at night and in the early morning hours. The reason for this is not known, although there are many theories having to do with the sensitivity of the nervous system and the accumulation of the irritating secretions.

Some people have attacks almost every night, whereas others may be free from asthmatic attacks for weeks or months.

Eventually the asthma may become chronic. In the chronic asthmatic, the severity of the attacks is less and the shortness of breath is likely to be less disturbing. However, the constancy of the symptoms may eventually produce changes in the appearance of the chest.

Doctors recommend that a person with asthma sleep alone in a well-aired room in which the temperature and the

humidity are under control. All upholstered furniture, carpets and other dust catchers should be removed from the bedrooms. Usually, it is best for a sensitive person to be out of the house when any serious cleaning is undertaken.

Tips on self-monitoring, self-care

Asthmatic patients can use Peak Flow Meter (PFM) to keep track of the state of their lungs. This helps them in knowing in advance about the onset of an asthma attack—before the appearance of manifest symptoms like breathlessness, wheezing and coughing. With the help of PFM, a record of the peak expiratory flow rate (PEFR) can be maintained by a patient. The reading may be taken at least twice a day. The PEFR is the amount of air exhaled (expressed in litres per minute)

forcefully after taking in as full a breath as a patient can.

The fall in the PEFR is due to the narrowing of the airway and is a sure indication of an imminent attack of asthma. By the time a physician diagnoses wheezing using a stethoscope there is about 20 per cent or more drop in PEFR. It is thus possible to forestall an asthma attack if a patient measures his PEFR as suggested below:

.. Monitor PEFR twice daily according to a fixed schedule- say 7 am and 7

pm.

.. A drop of 10 per cent in the PEFR places the patient in the safe zone, as this much variation is not unexpected over a span of 24 hours.

.. A drop of 10 per cent or more may be regarded as a warning of the onset of an attack.

.. A drop of 50 per cent or more means the patient should go immediately to his physician for medical aid. The possibility of the patient being advised hospitalisation is not ruled out.

Do's

- Keep the environment, particularly the bedroom dust free.
- Replace dust collecting furnishing - carpets, curtains, bed covers etc. - with easy-to-wash synthetic material.
- Use blankets made of synthetic fibre.
- Sleep in a room that is airy with proper ventilation.
- Take light meals before going to bed at night. A full stomach makes breathing difficult.
- Drink frequently warm water or other beverages that go well with you.
- Follow a regular daily routine—meals, working hours, going to bed.
- Avoid tension—generating situations that can trigger an asthma attack.

Don'ts

- Go outdoors during pollen-boom and pollen prolific months
- Stay in or near humid environment which is laced with asthma-aggravating and asthma-triggering fungi.
- Expose yourself to known and identified allergens.
- Consume foods that are known to produce allergic reaction—fish, eggs, nuts, food preservatives, etc.
- Go for a walk in areas swept by cold winds.
- Play with pets-cats, dogs, etc. which produce allergic reactions.
- Ignore throat irritations, nasal blockades and delay medical help.
- Smoke cigarettes, cigars, etc. that pollute the air.
- Take alcoholic beverages as far as possible.

Rights of an asthma patient

1. To be presented with the proven scientific facts of asthma.
2. To be taught self-management skills to minimise dependence on others.
3. To live in an unpolluted, smoke-free environment.
4. To be cared for by a physician who answers all queries cheerfully.
5. To enjoy full physical activity with normal life-style.

Myths about asthma



Myth 1.

Children outgrow their asthma.

It is a misconception that children will outgrow their asthma. One may describe it as wishful thinking. Parents tend to believe that with growth and maturity, the problems of children get sorted out. Children with mild symptoms may in rare cases outgrow asthma. However it is quite difficult to segregate such cases. The prevalence of asthma among children is higher than among adults. According to available data, nearly 10 percent of the children below 12 years of age are victims of this disease. The figure for adults is about five per cent.

Myth 2

Asthma can cause tuberculosis or cancer of the lungs.

There is no medical evidence to support this popular myth. Perhaps the intense discomfort experienced by asthmatic patients lead them to assume something more disastrous is in store for them. While gasping for breath, their pessimistic and depressive visions do result in inculcating myths like contracting cancer or T.B. Medical research rules out such diseases resulting from asthma.

Myth 3

Nasal allergy and asthma have little connection.

About 40 per cent of patients who



Emotional tension does not cause asthma but may aggravate the patients' condition

have nasal allergy develop asthma. The lining of the nose continues into the bronchila tubes. Asthma in most cases is an extension of nasal allergy into them. The same irritants that cause swelling and excessive secretion in the lining of the nose produce similar results in the lining of the bronchila tubes. The bronchila tube passages become narrower because of swelling of their linings, contraction of the muscle tissue in the bronchila walls, or from plugging with thick mucus. These cause difficulty in breathing and induce coughing attacks, the major symptoms of asthma.

Myth 4.

Change of climate cures asthma.

No. But it may be valuable if the allergic causes of asthma are not present in the new location.

Climate appears to affect the asthmatic patient. This is particularly true of

climate characterized by great variations of temperature and increased humidity. Under these circumstances, increased incidence of respiratory tract infections occur and this leads to aggravation of asthma.

Asthma in children is rarely helped by change of climate. Sometimes a child is relieved by an escape from pollens and moulds to which he is sensitive. It has been seen that the patient develops sensitivity in two to three years to the pollens of his new environment.

The asthmatic patients who are helped by warm, dry equable climate are those whose disease is due to chronic bronchial infection or those who have a long history of asthma and are affected by cold air.

Myth 5

Emotional tension causes asthma.

Emotional tension, alone, is rarely the major cause of the patient's trouble. It

may, however, aggravate the condition and make the patient more prone to asthma attacks. Asthma is essentially to be regarded a complicated condition. It can produce a variety of abnormal changes and responses. The patient's bronchila tubes become so sensitive to irritation that strong odours, cold air and common infections will produce asthma. Emotions such as anxiety, fear, anger and strong excitement may precipitate an allergic attack. The physical basis of an allergy cannot be ruled out. In other words, the presence of an allergic tendency exists despite one's state of mind.

Myth 6

Asthma is a precursor to heart problems.

Medical evidence does not appear to suggest this widely propagated misconception. In an asthmatic attack, the patient finds it increasingly difficult to breathe until he struggles for air and thinks he is suffocating. He breathes rapidly and his pulse becomes more rapid. Because plugs of mucous secretion get

into the bronchila tubes, the blood does not get an adequate supply of oxygen. The person seems to turn blue and the heart beats more rapidly.

Some medical experts are of the view that in certain case, the increased strain of the repeated attacks may have adverse effect on the heart. This takes a long time, however, and is not a very common occurrence.

Myth 7

Taking vitamins can help cure asthma.

Asthma is associated with an obstruction of the bronchial tubes and is characterised by a hard cough and difficult breathing. What is required is not vitamins but well known drugs that can effectively relieve an asthmatic attack. An attempt is made to find the allergen or cause of the sensitivity. Hypo-sensitization treatment and drugs will markedly reduce or eliminate the condition. Vitamins are largely prescribed for curing deficiencies. They cannot control asthma. Perhaps their value may be only psychological.



Commonly used anti-asthma drugs

Form of drug	Type of drug	Generic name	Brand name
TABLET	Xanthine	Theophylline/ Deriphylline	Phylobid, Theobid, Theolong, Theopd, Deriphylline, Retard.
	Beta-adrenergics	Salbutamol/ Terbutalin	Asthalin, Asthalin- SA, Bronkotab, Bricanyl
	Steroids	Prednisone/ Prednisolone Betamethasone	Deltacortril, Hosta- cortin-H, Wysolne Betnelan, Betacortril, Walacort
		Triamcinolone	Kenacort, Lederkort
	Drug Combina- tions, Xanthine +Beta adrenergic	Theophyllin+Sal- butamol	Bronkoplus, Theo- sthalin-SR
AEROSOLS	Beta-adrenergic	Salbutamol, Terbutalin	Asthalin, SOS Bricanyl
	Cromolyn	Cromolyn	Cromal-5, Fintal
	Steroids	Beclomethasone, Budesonide	Beclate-50, Beclate-200, Pulmicort
INJECTABLES	Xanthine	Deriphylline	Deriphylline
	Beta-adrenergic	Terbutalin	Bricanyl
	Steroids	Hydrocortisone	Wycort, LycortinS
		Betamethasone Dexamethasone	Betnesol Decadron, Wymesone

New developments



Yogasanas may provide relief to asthma patients

THE number of drugs for asthma is increasing. With appropriate selection and use of these medications, physicians have been able to achieve substantial improvements in reducing the illness and severe complications associated with asthma.

According to a leading research Centre in the US, the National Heart, Lung and Blood Institute (NHLBI), a major factor contributing to the rise in illness and death is under treatment. Many symptoms are often unrecognised, inadequately managed and under-estimated in terms of severity.

Another research institute, the Airways Disease Centre at Temple University Hospital, in Philadelphia is testing

new medicines and combinations. "Servant" is the latest asthma drug to be approved in the USA. A beta-agonist, this drug treats airway constriction that occurs in asthma attacks. It is designed for long-term, twice-daily use (morning and evening). It can be used to treat and prevent symptoms of night-time asthma and prevent exercise induced asthma.

Medical authorities lay more and more emphasis on patient education. "Creating a partnership between the physician and the patient is crucial", they add. There is need for both patients and primary-care doctors to be educated before the patients are referred to specialists.

Everyone should recognize that



Naturopathy lays stress on pollution-free environments

asthma has an underlying cause and its symptoms are breathing difficulties, wheezing and coughing as well as triggers that can produce asthma, such as environmental irritants, odours, allergens and infections.

Monitoring of the disease by patients is very important and the use of peak flow meter is very helpful.

Patients should learn to manage a worsening asthma, when they experience a change in the severity or frequency of symptoms.

The selection of drugs and their dosage have to be tailored to suit each patient. As the disease changes, the type and amount of therapy must change too. According to Dr Micheal Kaliver, director of the Institute for Asthma and Allergy in Washington D.C., "Servant" will be useful supplemental medication but it will not replace specific therapies that treat the underlying cause of asthma—including allergic avoidance, allergy shots, or inhaled steroids.

Naturopathy, yoga

Naturopathy has proved useful in a few cases of asthma which are essentially

mild in nature. Since naturopathy lays emphasis on pollution-free environments, some asthmatic patients have reported relief from symptoms.

The Yoga therapy, too, is aimed at elimination of accumulated waste, toxic elements that clog the body channels. The underlying principle of yogic practices is to help the patients inculcate self-discipline and thus improve body functions. Some patients report improvements in breathing and reduction in asthmatic attacks; others remain unconvinced.

Caution

Many so-called cures and quackeries have been advocated and promoted to the public, from time to time. These, for the most part, are advanced by unscrupulous money-seeking agents.

The medical profession often warns the patient that these products are ineffective. These can actually be harmful because these give patients a false sense of security. They invariably lead to disillusionment and neglect which breeds needless complications and structural, irreversible changes in the affected organs.

Non-drug treatment

By DR PRAMOD V. NIPHADKAR

A young woman who was suffering from asthma was under medical treatment for the problem which was under control with the help of regular medication. However, it was observed that she used to feel sleepless and was also reported to be highly irritable and quarrelsome with her family members. While the attitude of most doctors in such situ-

ations is to shrug it off by saying that this is an inevitable side effect of drugs, it was decided to try non-drug treatment on her. As the NDT progressed it was seen that her consumption of drugs dropped significantly and she gradually became less quarrelsome, and therefore more acceptable to her husband and children. Similarly, other patients have also re-



Asthma patients should avoid cold drinks and ice creams



Non-drug treatment aims at reducing drugs and antibiotics

ported an improved quality of life and more self confidence as a result of NDT and this only shows that this line of treatment is at least as important as medication if not more.

What is NDT ?

This is neither a revolutionary concept nor a new concept that has been developed recently, but it is certainly an important aspect of treatment that is often ignored by doctors and patients. This is because the simple prescription of drugs and their consumption is convenient for both sides, while NDT is something that requires hardwork on the part of both.

The benefits of NDT are manifold. There is a marked drop in the consumption of drugs and a reduced need for steroids and antibiotics, which in turn leads to a better quality of life and self-confidence on the part of the patient who feels that a cure is near, as opposed to a patient who is heavily dependent on drugs and knows that he is nowhere near a cure.

The main pillars of NDT are knowledge of the disease, allergy control, diet and exercise.

1) Knowledge of the disease: The patient is fighting a life-long battle with asthma and therefore it is essential to know all the strengths and weaknesses of the enemy, in order to win the battle. The patient should mainly be aware of the trigger factors on his asthma which will help him in preventing and controlling the asthma attacks. The trigger factor differs from patient to patient and while in some patient it might be some kind of allergy, in others it might be smoke, or even cold drinks.

Also it is a known fact that an asthma attack is mostly preceeded by some early warning signs that can help in taking immediate action. In some patients, it might be a backache, in some it might be a cold while in others it might even be chest pain.

Reading the warning signal not only



Fruits like papaya and apples and leafy vegetables are good for asthma patients

helps in reducing the intake of drugs later on, it also helps in taking immediate action like going near the window for fresh air, going out of the house for a small walk, drinking hot water or even tea or coffee, or even taking a small dose of the regular drug to ease the severity of the attack. At the same time the patient should have his doctor's phone number handy, and also the address and phone number of the emergency room within easy reach. All this helps a lot in improving the self confidence of the patient who feels that help is within easy reach any time of the day and night and that he will not have to run from pillar to post during an attack. Also, in order to have an idea of how the asthma is behaving, the patient should use an instrument called the Peak Flow Meter in which the patient gets a fair idea of his condition by blowing into the instrument, and can take steps accordingly. When the reading in the instrument is above 80% then it falls

in the green zone, like in our tricolour flag, and there is nothing to worry about. But when the readings fall between 80% and 60%, then the patient is in the yellow zone and he should be alert because if the reading falls below 50 units then the patient is in the red zone which indicates that an asthma attack is round the corner and that emergency action might be started. Such care can help in getting quick treatment and at the same time in avoiding hospitalisation.

2) Diet, do's and don'ts: The diet that is good for an asthma patient includes green, leafy vegetables like palak and methi, fruits like papaya, chikoos, apples and mangos, salads like beetroot and carrot, since these are coloured fruits and vegetables that contain a chemical called flavonoids that is anti allergic in nature. Therefore, consumption of this diet in large quantities leads to remarkable improvement in the asthma condition of the patient and also takes care of constipa-



Animal allergy is a major cause of asthma

tion that is supposed to be a minor trigger factor of asthma attacks. Equally beneficial is drinking a glass of hot water in the morning because it helps in loosening and drainage of the sputum. It is also advisable to drink plenty of water during the day and eat small and frequent feeds instead of heavy meals.

The don'ts for asthma patient include deep fried food like samosa, puri and pharsan, and sour foods like curds, imli, lassi and shrikhand. Also, care should be taken to avoid bananas, raw onions and citrus fruits like mosambi, orange and lemon. It is also good to avoid heavy meals, say on holidays, and to sleep over a heavy stomach because this might lead to some trouble for the asthma patient. Cold foods like ice cream, kulfi and cold drinks also should be avoided and it has been observed that if an asthma patient observes strict diet control then it can lead to as much as 20 per cent improvement in his condition.

3) Exercises: There are two types of exercises that are helpful for an asthma patient, namely breathing exercises to improve the condition of the lungs and exercises for general fitness.

Breathing exercises include air pillow blowing and balloon blowing for about 10 minutes, or bubbling into a bowl of water with a straw for five minutes or even playing a musical instrument like a flute or a mouth organ to improve lung power. These are kind of exercises that can easily be done at home. Yoga exercises like pranayama, and exercises to clear the nose also are good for asthma patients. Drainage of infected sputum is achieved by exercises, and this ultimately helps in reducing the intake of drugs by patients.

General fitness exercises like swimming, rope skipping, suryanamaskars and walking are all good for the patients. There was the case of a girl who was recommended rope skipping as a general



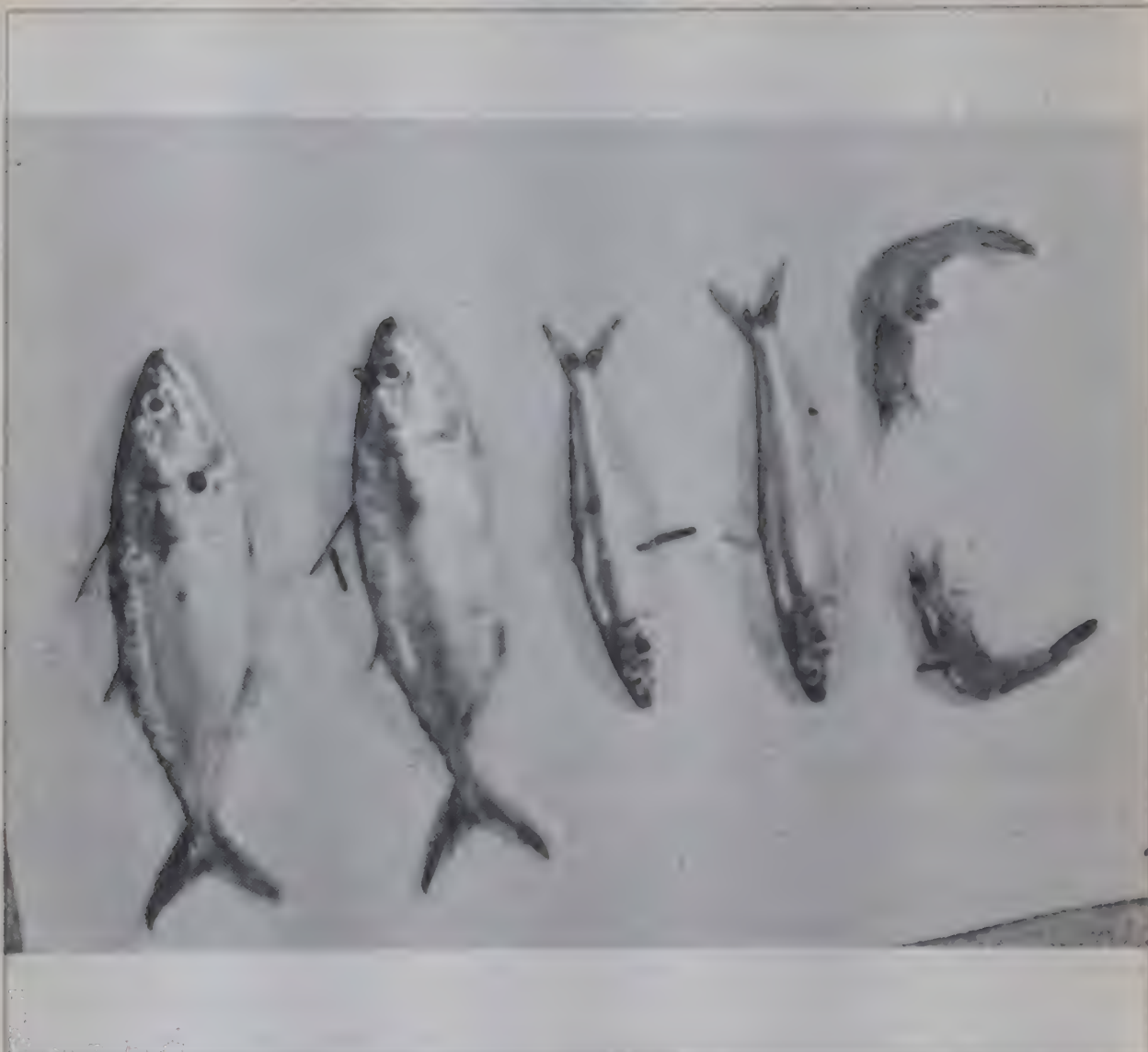
General fitness exercises can help patients

fitness exercise. She could do about 2000 jumps at a time, which is remarkable for an asthma patient and this achievement not only helped in building body resistance but also boosted her self-confidence. This, after being a patient who was heavily dependent on drugs and injections, and who even had to be hospitalised for asthma control.

4) Allergy-control: Dust samples from our cities have shown a heavy presence of house dust mite in it, that is supposed to be one of the trigger factors of asthma attacks and therefore it is important to control dust in the house. Such control of the mite and its eggs can be achieved by putting plastic covers on mattresses and pillows and using clean bedsheets, by use of vacuum cleaners and by ensuring plenty of sunshine in the house. Some asthma patients might be allergic to insects like cockroaches and steps should be taken to keep the house free of such insects.

Animal allergy is another major cause of asthma attacks as in the case of a young girl who was heavily dependent on steroids and was also overweight. It was suspected that she was allergic to dog hair which was making her condition so acute and when the pet pomerennians were taken away, her condition improved dramatically. She stopped taking steroids and her weight also came down. In another case, a patient was allergic to pigeon feathers and when the pigeon nest outside his bedroom window was removed his condition improved a lot. Items like chana dal also can be a trigger factor for asthma attacks and such allergens are peculiar to individual patients. Common allergic foods are cows milk, egg whites, fish, nuts, chocolates, Bengalgrams, black pepper, cashew nuts, dala, kabuli chana, lobsters, prawns, fish and chicken.

Occupational allergies can also aggravate asthma condition and knowing whether a person's occupation is the cause



Fish, prawns and lobsters may cause allergy

of asthma attacks can be useful to the patient. A person, working in a grainary can be allergic to grain dust and this problem affects, a lot of Indian farmers with allergy complaints. Also, wood dust that falls during the sawing of wood, fumes from chemicals like printing ink and from souldering, and organic dust like hay, dried mushrooms, and flour. Asthma patients should check whether there is any improvement in their condition during a long holiday since it would indicate that the person suffers from occupational allergy.

However, even after knowing all

about non-drug treatment, there are cases where asthma is quite acute in a patient and he requires to take drugs regularly. But for such patients, joining a group like the Asthma and Bronchitis Association of India and taking part in their various activities help in cultivating a sense of belonging and self confidence in them. The prevalence of asthma has doubled in India in the last 10 years and is expected to treble in the next five to 10 years due to the polluted atomosphere and the artificial lifestyle of people, and therefore the application of NDT becomes highly essential.

Important terms, their meaning

- Acute :** Rapid; Sudden; Not Chronic
- Allergen:** Any substance that causes an allergic condition.
- Allergy :** A sensitivity of the body to substances which in themselves are not irritating to the normal body.
- Antihistmine:** Drugs which tend to neutralize effects of histmine, a substance active in allergic reactions.
- Ardenal :** A gland of internal secretion
- Bronchi :** The two cartilaginous branches of the trachea (windpipe) which go to the right and left lungs respectively.
- Bronchial :** Referring to the branching system of breathing tubes to and into lungs.
- Bronchioles** Tiniest branches of the bronchi, which have walls of muscle instead of cartilage and which terminate in the alveoli.
- Cartilage :** A tissue less hard and more elastic than bone, found in joints and elsewhere.
- Common cold:** A virus infection of the upper breathing organs.
- Cortisone :** A hormone of the ardenal cortex; useful in certain forms of rheumatism and other diseases.
- Depression:** A mental state of deep sadness and self-accusation beyond the normal reaction to grief and other adverse circumstances.

- Fungus:** A microscopic plant growth; some fungi are capable of producing diseases, others like penicilium, of helping to overcome them.
- Histamine:** A substance released in the body during allergic reactions.
- House dust:** The mixed dusts which accumulate in the air of dwellings and cause allergic reactions in some persons.
- Hay Fever:** An allergic condition of the upper respiratory tract caused by sensitivity to pollen. Symptoms are congestion of the mucous membranes, stuffed nose, sneezing and red eyes.
- Hypersensitivity:** Excessive reaction to stimulation.
- Moulds :** Fungi which produce spores, some may cause allergies. It grows on vegetable matter. Housewives know it as something which spoils bread or mildews clothes. The spores of moulds are smaller than pollen and are present in the air at all times of the year.
- Mucus membrane:** A surface membrane composed of cells which secrete various forms of mucus. (The lining of the respiratory tract, the gastro-intestinal tract, etc.)
- Naturopath:** A practitioner of a healing group which relies on natural methods—diet, air, sun and water to treat disease.

- Occupational disease :** A disease associated with the type of work or employment of a person.
- Pituitary:** The principal gland of internal secretion.
- Pollen:** The male cell of certain plants, distributed by the wind; some pollens cause allergies to certain persons. They are fine, powdery, yellowish grains, microscopic in size which are the fertilizing elements of flowering plants, trees, grasses, etc.
- Pollution:** The spoiling of a natural resource such as air or water by noxious or dangerous contaminants.
- Reaction:** Undesired and unpleasant effects from a drug or condition.
- Regimen:** A planned course of treatment.
- Rhinitis :** Inflammation of the lining membrane of the nose, causing bouts of sneezing.
- Sensitization:** Changes in the body due to exposure to a drug or substance to which the body reacts violently in subsequent contacts with the same.
- Steroids :** Drugs of hormone origin, especially from the pituitary and adrenal glands used in the treatment of various disease states.

Books, Associations

Books

1. **Asthma and Allergies**

Dr O.P. Jaggi, M.D., Ph.D, FCCP(USA), FACA(USA), FRAS(LON)
Former Director, V. Patel Chest Institute,
President, Asthma Self-care Foundation,
Publisher: Orient Paperbacks.

2. **Asthma Attack**

Dr. O.P. Jaggi and

3. **Managing Asthma**

Dr. O.P. Jaggi

Publisher: Asthma Self-care Foundation, New Delhi.

Association:

1. **Asthma and Bronchitis Association of India,**
St. George Hospital,
Bombay-400 001.

(The association which has some of the country's leading specialists on its panel of advisors brings out information literature for the benefit of patients, organises public lectures, holds seminars and workshops. It brings out a quarterly newsletter "Asthma Times" which contains useful and informative material)

2. **Asthma Self-care Foundation,**

128, Vasant Enclave, New Delhi-110 057 (Tel: 6885579)

(The Foundation, headed by Prof O.P. Jaggi, undertakes programmes for educating and informing patients on self-care techniques and the ways to manage and control asthma. A non-profit making organisation supported by donations, it has brought out a number of small booklets (low priced). The titles include: Asthma Triggers, Anti-asthma Drugs, House-dust Allergy, Asthma Attacks: Early Signs and Others)

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